

Scale-Up: PLTW Gateway

Overview: Funding will assist Iowa schools in implementing Project Lead The Way's Gateway program by providing tuition for Design & Modeling (DM) and Automation & Robotics (AR) Core Training for teachers and five VEX PLTW Gateway Robotics Kits.

Program Summary:

[Project Lead The Way](#) (PLTW) is a nonprofit organization and the nation's leading provider of science, technology, engineering, and math (STEM) programs. PLTW's world-class, activity-, project-, and problem-based curriculum and high-quality teacher professional development model, combined with an engaged network of educators and corporate partners, help students develop the skills needed to succeed in our global economy. PLTW's rigorous and relevant curriculum is collaboratively developed and consistently reviewed and improved by PLTW staff, teachers, university educators, industry experts, and school administrators. It leverages an innovative, project-based approach, fostering collaboration and building critical thinking skills.

PLTW has experienced tremendous growth nationwide in recent years. In Iowa, exponential growth has occurred due to PLTW's robust statewide support network that includes all three Board of Regents Iowa Institutions (UI, ISU, and UNI), all 15 Iowa community colleges, the Iowa Department of Education, the Iowa Department of Economic Development, corporations, and foundations. PLTW is uniquely positioned to address Iowa's workforce needs and build a pipeline of STEM professionals by the scale-up of its programs in the state. PLTW's national infrastructure and strong statewide team is a proven effective model in supporting PLTW programs in Iowa.

Project Description/Objectives:

- Ensure awareness of PLTW within all Iowa school districts by Summer 2015.
- Increase participation in PLTW programs within Iowa schools by 20% by Fall 2014.
- Increase Iowa student participation in PLTW programs and their understanding of STEM content.
- Increase the number of Iowa students pursuing STEM-related degrees and careers.

Grade Levels: 6-8

What is Provided by the Project:

This project will provide teacher training (one teacher per session) for the two foundation units of [PLTW Gateway](#): Design and Modeling (DM) and Automation and Robotics (AR). Schools may choose to send one teacher to both Core Training sessions (DM and AR); or two unique teachers, one to DM Core Training, and another to AR Core Training. This project will provide selected middle schools with five VEX PLTW Gateway Robotics Kits for the AR unit. These kits, representing more than two-thirds of one-time equipment costs, will allow schools to adequately outfit one lab with the robotics equipment needed for up to 25 students (one kit for every five students) per class period. These kits will be shipped directly to each selected school. The schools will also receive a specific PLTW Purchasing Manual containing a detailed outline of all one-time and consumable equipment and supplies (including estimated costs, quantities, and potential vendors) for both of the PLTW Gateway foundation units.

What is Required by the School or Local Education Agency (LEA) in Order to Implement This Program:

- Review the [PLTW Register Now](#) webpage and understand the [PLTW Gateway Program Requirements](#).
- If not already registered, register the school district and participating schools through the PLTW online registration process. Select a District Administrator and School Administrator (for each school) to serve as the main points of contact with PLTW and be responsible for providing and maintaining accurate data and information. Upon registration, the District Administrator will receive an email with a link to the [PLTW Agreement](#). Registration does not commit the school district or school to implement PLTW.
- Review the PLTW agreement with the school board, superintendent, and legal department to ensure all parties are aware of district and school responsibilities. After obtaining the authorized signatures, email the agreement to the PLTW School Support Team.
- Execute LEA Agreement with PLTW as a part of Scale-Up before attending Core Training.
- Select a teacher(s) to instruct the PLTW Gateway foundation units: Design and Modeling (DM) and Automation and Robotics (AR). Teachers should be excited to teach a project-based curriculum and meet the requirements of the PLTW agreement. Once selected, the School Administrator will register each teacher in the PLTW database.
- Register for Core Training at the Iowa State University College of Engineering. Once the teachers are added to the PLTW database, they can register for DM and AR Core Training sessions (one-week per PLTW Gateway unit). Teachers must successfully complete all online PLTW Gateway Readiness Training modules prior to attending Core Training. Teachers must successfully complete and pass Core Training for every PLTW Gateway unit they wish to instruct.
- Purchase necessary equipment and supplies. Review the provided PLTW Gateway DM and AR Purchasing Manual and order the necessary items for the units. Start the ordering process early to ensure the lab is fully equipped on time.

Website to View Program and Standards Alignment: <http://alignment.pltw.org/site/index>

Program Video: <https://www.youtube.com/watch?v=qQq6Fu8VK3A&list=PLcCTPHuIP75L4OB5bdEiFmryWewqxbXRT>

2014 Iowa PLTW Gateway Scale-Up Step-By-Step Info Sheet

1.	New or Existing PLTW School Districts Review the Details of the PLTW Gateway Program Requirements & the Iowa Governor's STEM Advisory Council's 2014-15 STEM Scale-Up Program Info & Requirements	<ul style="list-style-type: none"> ❖ If this is your district's first PLTW program, please review the PLTW New District Registration page carefully. The page includes information about the duties of key district & school contacts, information needed to register, how to designate PLTW teachers and enroll them in professional development opportunities, plus equipment & software information for all of our PLTW Programs. This page also includes information on the PLTW Agreement and PLTW Program Requirements. Note the helpful links in the gray-shaded box on the right-hand side of the page. ❖ If your school district already has one or more PLTW programs, please review the PLTW Existing District Registration page carefully. The page includes information on key district & school contacts, information needed to register new PLTW district schools versus having an existing PLTW school add a Program. Plus information on PLTW Teachers, PLTW Program Requirements, Professional Development, and equipment & software information for all of our PLTW Programs. Note the helpful links in the gray-shaded box on the right-hand side of the page. • New or Existing PLTW Districts need to review the PLTW Program Requirements PDF to understand the commitment required to implement the PLTW Gateway program as part of the Iowa STEM Scale-Up PLTW Gateway: Design & Modeling (DM)/Automation & Robotics (AR) opportunity. • New or Existing Districts should also review the provided PLTW Gateway: DM and AR Materials List PDF. • Refer to the Governor's STEM Advisory Council's 2014-15 STEM Scale-Up Programs webpage for more information about the Iowa Scale-Up initiative, Scale-Up application process, & program information for the 2014-15 Scale-Up programs. <p>PLEASE NOTE: All Scale-Up award commitments for FY 2015 (academic year 2014-15) are contingent on continued funding by the Iowa legislature. (Number 13 in this document provides additional discussion on this topic.)</p>
2.	School District/School(s) Registers for PLTW Gateway Program, & Assigns District & School Administrators	<ul style="list-style-type: none"> • If your school district and/or school are not already registered with PLTW, please visit the PLTW Register Now webpage to start the registration process. • Assign a District Administrator & School Administrator (for each school). These individuals will serve as the main points of contact with PLTW & be responsible to provide & maintain accurate data. A table of PLTW Systems User Roles and Permissions can be found here.
3.	School District Reviews, Signs & Returns PLTW Agreement	<ul style="list-style-type: none"> • Upon PLTW school registration, the District Administrator (DA) automatically receives an email with a link to the PLTW Agreement (PLTW Agreement sample). • Review the PLTW Agreement with school officials to ensure all parties are fully aware of district & school responsibilities. • After obtaining the authorized signatures, email the signed agreement to the PLTW School Support Team (schoolsupport@pltw.org). • The \$750 annual PLTW Gateway Participation Fee will be invoiced to the school in May to be paid by August 31st. Please see the PLTW Participation Fee FAQ for more information.

4.	School District Identifies Prospective Teacher to instruct PLTW Gateway: DM & AR Units and School Reviews PLTW Gateway: DM & AR Course Outlines & Alignments	<ul style="list-style-type: none"> • School district selects a teacher(s) to instruct the PLTW Gateway Foundation Units—Design & Modeling and Automation & Robotics. Select teachers excited to teach a project-based STEM learning curriculum & that also meet the requirements outlined in the PLTW Agreement. • It is recommended that the School Administrator & prospective PLTW teacher review the detailed course outlines for the PLTW Gateway: DM & AR units. Reviewing the course outlines builds shared familiarity & understanding regarding course topics, concepts, objectives, & sequence. • Detailed PLTW Gateway unit outlines can be requested at Gateway Course Outline Request. An automated email will be sent with requested outlines attached. • PLTW high school courses and middle school courses are aligned to the Common Core State Standards for Mathematics and English Language Arts and Next Generation Science Standards. Utilize the dynamic interface of the PLTW Standards and Objectives Alignment Tool to create alignment based on user-set parameters.
5.	Prospective teacher(s) added and “attached” to the School via the PLTW Extranet	<p>The PLTW School Administrator (SA) verifies and adds prospective teacher to the school district through the PLTW Extranet. Below are the steps a SA follows within the extranet to add one or more new teacher(s) to a registered school.</p> <ol style="list-style-type: none"> 1. Click on the "SCHOOLS" icon on left-hand side of the screen 2. Select the appropriate school 3. Scroll down to "Teachers" & select "Add New" 4. Click in the "Contact" dialogue box & enter the teacher's first name, last name, & email address. Then click "Add as NEW contact" 5. Click "SAVE" and a dialogue box appears asking you to select a password* for the newly added teacher. *Make the password generic, i.e. teacher's last name or "welcome" in the event they lose it. 6. Click "Create Login" and the teacher will be sent a generated email providing them with login & password for the Teacher Console on the PLTW Extranet.
6.	PLTW-Registered Teachers are provided access to their Three-Phase Professional Development Model—Readiness Training, Core Training, and Ongoing Training & access to the PLTW LMS	<ul style="list-style-type: none"> • PLTW's Three-Phase Gateway Professional Development Model—Readiness Training, Core Training, and Ongoing Training, provides teachers with learning opportunities that emphasize proper preparation, in-depth training, and continuing education. • Readiness Training—will open to Core Training-registered teachers on April 15th, 2014. Instructions on accessing the readiness training will be included in teacher's registration confirmation emails. This PD focuses on preparation and awareness to ensure that teachers have basic technical and content knowledge prior to participating in pedagogy, skill, and knowledge enhancement training experiences. Successful completion of Readiness Training is required before a teacher can attend Core Training. • Core Training—focuses on building awareness and confidence related to STEM education; activity-, project-, and problem-based learning; the roles of the teacher and student as they relate to instruction; and unit-specific STEM content. Core Training is a collaborative, in-person training experience offered at PLTW Affiliate Universities across the nation and facilitated by PLTW Master Teachers and Affiliate Professors. After successfully completing Core Training, teachers can access the National Gateway Professional Learning Community (PLC), unit-specific student and classroom instructional resources, and Ongoing Training resources all offered on PLTW's LMS. • Ongoing Training—consists of self-paced and live online e-Learning resources that provide enhancement opportunities and ongoing learning for educators.

7.	The myPLTW site and the Learning Management System (LMS)	<ul style="list-style-type: none"> • PLTW curriculum and professional development are only available through the PLTW Learning Management System (LMS), which teachers and students access through myPLTW. • The myPLTW site is a one-stop shop for all applications and tools for your PLTW program. Currently it includes access to score reporting, student data tools, and the PLTW Learning Management System (LMS). • The PLTW Learning Management System (LMS) is an online educational management system which delivers curriculum, professional development, and interaction between teachers and students. • Teachers gain course access for each PLTW course where they have attained professional development credit. • Teachers must roster their students via the LMS in order for the students to access the LMS. • Some school Internet firewalls may not allow access to the PLTW LMS site at https://pltw.instructure.com/. If you experience access issues, ask your school IT Administrator to whitelist this URL. • If you have any questions or need further information, please contact schoolsupport@pltw.org. <p>Find instructions on how to access your PLTW course in the LMS listed on the last page of this document.</p>
8.	Teacher Registers for PLTW Gateway DM & AR Core Training Institutes at ISU College of Engineering July 6-18, 2014	<p>To register for Core Training, a teacher logs into the PLTW Extranet and chooses the Iowa State University option for the PLTW Gateway: Design & Modeling and Automation & Robotics Core Training Institutes (CTI) in Ames, Iowa from July 6-18, 2014.</p> <p>The PLTW University Affiliate - Iowa State University webpage provides training site contact information & CTI details.</p> <p>This PLTW Gateway Scale-Up award will provide teacher training (one teacher per session) for the two foundation units of PLTW Gateway: DM and AR. Schools may choose to send one teacher to both Core Training sessions (DM & AR); or two unique teachers, one to DM Core Training and the other to AR Core Training.</p> <ul style="list-style-type: none"> • 2014 PLTW Gateway: DM and AR Core Training events are each one week in length. • Teachers must successfully complete & pass Core Training for each individual PLTW Gateway unit their school wishes to implement and the teacher wants to instruct. • Both PLTW Gateway: DM & AR CTI courses must be attended during Summer 2014 per the Iowa PLTW Gateway Scale-Up award requirements AND both units must be offered at the school for the 2014-15 school year. • A PLTW welcome letter will be sent to all registered teachers with course login information, as well as a list of required tasks which must be complete before the first day of Core Training. • INCLUDED with award: <ul style="list-style-type: none"> ○ Tuition, parking, dining card (for lunches), bus passes, and field trips for two 1-week Core Training sessions (one-week per PLTW Gateway unit) at Iowa State University. <p>NOTE: Schools are not responsible for paying the CTI tuition fees to ISU—this payment will be handled by PLTW.</p> <ul style="list-style-type: none"> • EXCLUDED from the award: <ul style="list-style-type: none"> ○ Lodging plus an additional dining card (for breakfasts & dinners) may be purchased through Iowa State University for \$300 per 1-week Core Training session (DM & AR are each 1-week Core Training sessions). ○ Transportation costs (i.e. mileage, rental car) ○ Teacher stipends/salaries. • Please contact Camille Schroeder at the ISU College of Engineering for more details at pltw@iastate.edu.

9.	Teachers Complete All Required Readiness Training & Core Training preparation tasks.	<p>Teachers are required to:</p> <ol style="list-style-type: none"> 1. Download, install, & launch all software on LMS prior to arriving at Core Training. 2. All Readiness Training Modules must be completed by 11:59 pm on the Thursday prior to the specific Core Training event for which a teacher is registered. Modules are designed to ensure that participants have basic course content knowledge & technical skills. 3. Obtain all required training equipment & supplies <ol style="list-style-type: none"> a. Laptop which meets or exceeds PLTW Computer specifications. b. External mouse c. Ethernet cable (10-15 feet in length) d. Jump drive e. Digital camera or cell phone camera &/or webcam & any necessary equipment needed to download pictures to laptop. Ability to take video is optional, <u>but highly recommended</u> f. Pens, pencils (mechanical preferred) with erasers, & highlighters g. Scientific calculator (basic 2 line display) h. Closed-toed shoes (for lab work & tours) i. Headphones to plug into computer 4. Arrive with a positive attitude & a good sense of humor. 😊
10.	Review PLTW Gateway DM & AR Materials List, Inventory Current School Supplies, & Make Necessary Equipment & Materials Purchases	<ul style="list-style-type: none"> • Included PLTW Gateway Scale-Up award materials: <ul style="list-style-type: none"> ○ Five VEX PLTW Gateway Robotics Kits. These kits will provide schools with two-thirds of their initial material-related costs & adequately outfit one lab with the robotics equipment needed for up to 25 students (one kit per five students) per section. ○ A detailed DM & AR list of materials outlining all other one-time & consumable equipment and supplies (including estimated costs, quantities, & potential vendors) necessary to implement 1 section of DM and 1 section of AR will be provided to you. • Excluded PLTW Gateway Materials NOT included as part of the PLTW Gateway Scale-Up award: <ul style="list-style-type: none"> ○ Costs associated with other equipment & supplies necessary to implement DM & AR. Many of these materials are items that schools may already have in a typical classroom lab (i.e. scissors, paper cutter, storage cabinet, tape measures). ○ PLTW Gateway Participation Fee of \$750 per year includes access to all the program features for which a school has a trained teacher, including, but not limited to, access to the PLTW Learning Management System (LMS) and professional learning communities; assessments; unlimited required software licenses; required online, on-demand readiness and ongoing teacher professional development; student recognition and scholarship opportunities; reporting tools; and school and technical support. Each school is required to pay this annual participation fee. Teacher laptop(s), student computers, a printer, & a projector that meets or exceeds the minimum PLTW specifications.

11.	Teachers attend Core Training at Iowa State University	<p>Specific training information will be provided through the registration process & PLTW LMS.</p> <ul style="list-style-type: none"> • PLTW Gateway Core Training events will start on Sunday & end Friday. • A typical training day is from 8am to 5pm with optional (usually necessary) night sessions. • Participation in a Core Training event requires commitment outside of scheduled class time. Plans should be made to accommodate the demands of the courses. • To accommodate the demand of Core Training, participants are strongly encouraged to stay on campus during training regardless of geographical location or proximity to home. This on-campus, private room, dorm style housing provides participants the opportunity to continue the learning & networking after classroom hours with the course Master Teachers & fellow course participants.
12.	Teacher Passes/Does Not Pass PLTW Gateway Core Training	<ul style="list-style-type: none"> • Teacher Passes PLTW Gateway Core Training <ul style="list-style-type: none"> ○ Teacher is automatically enrolled in course-specific ongoing training & receives access to the teacher version of the PLTW course. • Teacher Does Not Pass PLTW Gateway Core Training <ul style="list-style-type: none"> ○ Option 1. Teacher loses access to all training & teacher-related course resources and must retake & pass Core Training. ○ Option 2. Teacher is placed on a Professional Development Plan (PDP) which details next steps. Access to PLTW resources must be outlined within the PDP & requires approval from the Affiliate University, the PLTW Gateway Course Master Teacher and PLTW.
13.	What Does The Following Mean? "All Scale-Up award commitments for FY 2015 (academic year 2014-15) are contingent on continued funding at the sufficient level by the Iowa legislature."	<ul style="list-style-type: none"> • The Governor's STEM Advisory Council operates on legislated appropriated dollars. At this time, the Education Reform is sitting in the House & the Senate of the Iowa Legislature. The funding works very similar to school's allowable growth funding, which is also yet to be determined. • The Governor's STEM Advisory Council does not anticipate a problem with receiving the appropriated amount. PLTW, however, would like you to be aware of the possibility that funding might not occur as well as the reality that the award covers a good percent of the funds needed to implement the PLTW Gateway: DM & AR Units. <ul style="list-style-type: none"> ○ If Scale-Up funding doesn't occur, schools would need to decide if they will continue implementing PLTW Gateway plans on their own. This would require that schools pay for the teacher's PLTW Gateway: DM & AR Core Training tuition (\$2,400), the PLTW Gateway VEX Robotics Kits, & all other previously determined necessary expenses that were not included in the PLTW Gateway Scale-Up award.
14.	Ongoing Current & Future PLTW Support	<ul style="list-style-type: none"> • Kimberly Glenn, PLTW Director of School Engagement, will be the main PLTW Iowa Scale-Up contact. Feel free to contact her anytime with your PLTW Scale-Up questions at kglenn@pltw.org. • Once the Scale-Up funding has been approved, and PLTW has the complete list of PLTW Gateway: DM/AR-funded schools, you will receive further communications, including a welcome letter and next steps. • The expanded Iowa PLTW Team is also available to help you as you move forward with your program's implementation and sustainability plans.

PLTW Contact Person:

Kimberly Glenn, PLTW Director of School Engagement
kglenn@pltw.org

ISU College of Engineering Core Training Institute Contact Person:

Camille Schroeder, Iowa PLTW Affiliate Director
pltw@iastate.edu

Website to View Program & Standards and Objectives Alignment:

- Project Lead The Way: www.pltw.org
- PLTW Standards & Objectives Alignment Tool: <http://alignment.pltw.org/>

Project Lead The Way Partnership Team Guidebook:

<http://www.pltw.org/sites/default/files/PLTW%20Partnership%20Team%20Guidebook%202012-13%20FINAL.pdf>

Project Lead The Way YouTube Page

<http://www.youtube.com/user/TeamPLTW>

Program Videos:

- Project Lead The Way Video
<http://bcove.me/iz1xtg6r>
- Toppenish High School - Success Through PLTW:
<http://www.youtube.com/watch?v=u1W9CO2KvvQ>
- Dr. Vince Bertram on PLTW at Research Hearing
<http://www.youtube.com/watch?v=FdwepJLqqaM>
- Girls in Engineering
<http://www.youtube.com/watch?v=Ytax6qzmzi8>

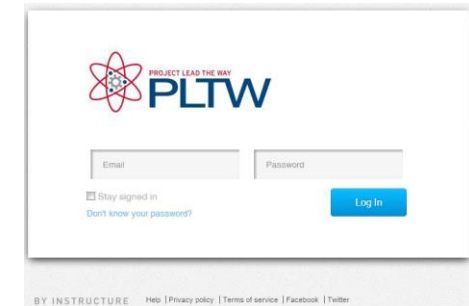
PLTW PLTW Gateway: Automation & Robotics Video from Mark Matson—

PLTW Gateway Master Teacher, Franklin Middle School, Cedar Rapids, IA

http://vimeo.com/53190506?action=share&post_id=535727405_300086490092256#_=_

How do I access my PLTW course in the LMS?

A user account within the PLTW LMS has been set up for you by PLTW. To log into the LMS, you will need to establish a password for your account by following the directions below.



1. Go to the PLTW LMS at: <https://pltw.instructure.com/login>
2. Click the "Don't know your password?" link at the bottom left of the sign-in window.
3. In the next window, enter your school email address. Your school email address is your user name.
4. Select Request Password. Check for an email from "Instructure Canvas notifications@instructure.com" which contains a link to set a new password. If you do not receive this email, check your spam filter or "junk" email folder.
5. Follow the link in the email to update your new password.
6. Log into the PLTW LMS <https://pltw.instructure.com/login>
7. Navigate to your course by hovering your mouse over Courses on the top of the screen.



8. Select the link to your specific course in the drop-down list & you will be routed to your Readiness & Core Training home page.
9. Play the Welcome Video embedded in the home page for more information on how to get started & navigate in your new PLTW Professional Development course.